

The “Big Paper Network” – Supporting Doctoral Students to Degree Completion

Joyce M. Lieberman, (E-mail: JoyceL@niu.edu), Northern Illinois University

Nina G. Dorsch, (E-mail: ndorsch@niu.edu), Northern Illinois University

ABSTRACT

Doctoral completion rates are a concern across disciplines. This paper describes the way in which Curriculum Leadership faculty redesigned their doctoral program from coursework through completion to include a strong support system, intellectually and emotionally. This culminated in the creation of the “Big Paper Network,” designed to support candidates from proposal writing through defense.

INTRODUCTION

Graduate education in the United States is widely recognized as the best in the world, yet it is far from perfect and will remain in a leadership position only by continual self-examination and improvement. Criticisms commonly heard today include overproduction; narrow training; emphasis on research over teaching; use of students to meet institutional needs at the expense of sound education; and insufficient mentoring, career advising, and job placement assistance. - Danforth, 1998

Forty to sixty per cent of students, nationally, who begin a doctoral program do not complete their degree. The NIU College of Education rate is approximately 50%. Faculty in the Department of Teaching and Learning have been working to recreate one doctoral program and to increase the program's completion rate in a variety of ways, including: restructuring the interview process to include an on-site writing sample; focusing on various strategies and genres of the writing process throughout the coursework; explicitly emphasizing the knowledge and skills required to be successful in the dissertation process; making connections between coursework projects and the dissertation; and creating the “Big Paper Network” (BPN). The purpose of this paper is to describe the program that led to the development and implementation of the “Big Paper Network,” designed to support candidates from proposal writing through defense.

PROGRAM CONTEXT

At Northern Illinois University, enrollment in the Doctorate in Education (Ed.D.) in Curriculum and Instruction (C & I) has increased steadily over the last five years, from 102 in fall 1999 to 182 in fall 2003. Consistently, women make up at least three-fourths of this enrollment. Minority enrollment has increased, from six in fall 1999 to 25 in fall 2003. The degree program includes three active specializations: Literacy Education; Science, Social Studies, and Environmental Education (SSEE); and Curriculum Leadership. The Literacy Education specialization maintains a steady enrollment of approximately 30 students at any given time. The SSEE specialization, formerly the Elementary Education specialization, has generally had ten or fewer students at any given time. The specialization in Curriculum Leadership, then, has been the primary (in fact, the sole) source of the increased enrollment in this doctoral degree program.

The large and increasing numbers of students pursuing doctoral studies in Curriculum Leadership is related to the variety of professional positions held by program students and graduates. More than 50% of teachers in Illinois have a master's degree. Therefore, there is a reason and desire by professional educators to pursue a doctoral degree. The demand for educators seeking employment as administrators, curriculum directors, and professional development coordinators continues to grow due to large numbers of retirements, educational policy such as No Child Left Behind

(NCLB) and a state certification structure that mandates teachers' and administrators' continuous professional development. Administrators in the state of Illinois need advanced degrees in order to obtain and maintain their position. The doctoral specialization in Curriculum Leadership is seen as providing the professional background principals and district administrators need to assume roles of instructional leadership. Additionally, alumni have joined the professorate in public and private higher education institutions in Illinois, other states, and internationally.

In supporting students' professional goals, the program's design includes three areas of coursework. [A description of the specialization coursework can be found at <http://www.cedu.niu.edu/tlrm/doctoral.html>] The common requirements area of the program of study is included in all doctoral programs in NIU's College of Education and grounds students' studies in the foundational perspectives of sociocultural analyses, human learning and development, and research skills. Students are encouraged to expand their professional knowledge base through coursework outside the major in the "cognate" component of the degree program. For some students, the cognate provides the opportunity to take coursework for administrative certification if they do not already hold such certification. For others, the cognate allows for a focused area of curricular or instructional expertise such as art education or instructional technology. Courses in the major include a minimum of six courses, including two core courses required in all C & I specializations—Design of Curriculum and Instruction and Research Seminar in Curriculum and Instruction—that serve as program "bookends." The first exposes students to a variety of conceptual frameworks within Curriculum and Instruction, while the latter provides support for writing the dissertation proposal and serves as a transition point between the coursework and dissertation phases of the program.

Like most doctoral programs, the Ed.D. in C & I specialization in Curriculum Leadership consists of two phases, coursework and dissertation, with the candidacy examination as the rite of passage that bridges these two elements. Virtually all C & I students are employed in full-time professional positions and complete their coursework on a part-time basis. For many, this means taking one course each fall and spring semester and two courses each summer so that completing the coursework takes four years. Others accelerate the course-taking pace to complete the coursework in three years. However many years are devoted to taking courses, the vast majority of students reach the point of having attained candidacy and begin to work on their dissertation research under the tutelage of faculty members who serve as dissertation directors. The external discipline of scheduled class sessions and assignment due dates gives way to an internal discipline of self-imposed work schedules and deadlines for data collection, analysis, and writing. This shift in locus of discipline is one source of the ABD phenomenon.

THE PROBLEM: DOCTORAL ATTRITION

That there is an acronym for the phenomenon indicates its pervasiveness. To better understand doctoral attrition, including the ABD phenomenon, Bair and Haworth (1999) distilled 118 research studies on doctoral student persistence. Their meta-synthesis is particularly noteworthy for factors found to be ineffective predictors of persistence: academic achievement indicators (e.g. previous graduate GPA), and employment and financial factors. The wide variation in retention rates across institutions, field of study, and programs of study seemed to be related to two dynamics: the departmental culture and difficulties with the dissertation (Bair & Haworth, 1999).

Universities across the country struggle with doctoral completion rates. Recommendations for this on-going phenomenon have been made by the Council of Graduate Studies and Carnegie Foundation. In addition the American Association of Universities (AAU) 1998 study encouraged departments that support a doctoral program "to examine the size, scope, and performance of its graduate programs to determine whether these programs are meeting the interests of students in preparing them for the diversity of careers to which they may aspire, and to take appropriate actions where they do not" (1998, n.p.).

In 2000, the National Association of Graduate-Professional Students (NAGPS) conducted a survey to determine ways in which graduate education could be improved (results are available online at <http://survey.nagps.org/>). The following information comes directly from the NAGPS webpage (<http://survey.nagps.org/index.php>). Findings indicate that the overwhelming majority of survey participants reported positive educational experiences:

- 81% of respondents say they are satisfied with their doctoral programs.
- 86% of respondents say they are satisfied with their advisors.
- 80% would recommend their programs to prospective students.

Students reported the greatest satisfaction in programs that have curricula that prepare them for a variety of careers, that provide them with comprehensive information before enrollment, and that treat them with respect. The common thread is that satisfaction is strongly linked to choice: students want curricula broad enough to give them a choice of careers, they want information to ensure that their choices are informed, and they want the choices they make to be respected.

Despite their overall satisfaction, survey participants express important concerns about preparation for non-academic careers, curricular breadth, training for teaching, and program diversity. These student concerns are in areas that institutions and the academic community have themselves identified as important components of graduate education through recent reports from the National Science Board (NSB 1998), the National Academies of Science (NAS, 1995; NRC, 1998), the Association of American Universities (AAU, 1998), and others (NAGPS, 2000).

The Ph.D. Completion Project being conducted by the Council of Graduate Schools (2004) identifies several promising practices to be investigated. Among these practices are mentoring, processes and procedures, and program environment. Citing studies addressing graduate degree completion, attrition and persistence, the Council of Graduate Schools project notes that interaction between students and faculty is often mentioned by students as contributing to their timely completion of a doctoral degree, particularly as faculty mentors are perceived as showing care, commitment, encouragement and friendship. Feedback within candidacy examination and dissertation prospectus processes can also enhance the dissertation process. Informal elements of the program environment can also be conducive to degree completion. Social gatherings and department events are among the activities that contribute to socialization to the academic discipline.

The Carnegie Foundation for the Advancement of Teaching's report of the summer 2003 convenings within the Carnegie Initiative on the Doctorate identified challenges specific to doctoral programs in education. One particular challenge involves the meaningful integration of part-time students into programs. Several student panel members noted that fostering a community is especially difficult when many students in a doctoral program are part time students, as is the case with the NIU doctoral program in Curriculum Leadership.

At NIU, while student numbers in Curriculum Leadership have increased, the number of tenured/tenure-track faculty serving the specialization has not increased, posing a challenge in providing the kind of faculty mentorship advocated by the Council of Graduate Schools Ph.D. Completion Project (2004). If significant numbers of students in the program experience difficulties with the dissertation or take considerable time to complete their dissertations, the potential exists for a "backlog" to develop that would exacerbate dissertation difficulties for succeeding students and faculty. Currently, approximately 40 candidates are at some stage of dissertation writing. The numbers of graduates in the C & I program each year indicate that a backlog has been forming (i.e., total degrees awarded across all C & I specializations each year from 1999 through 2003 varied from 5 to 20, with a mean of 10 graduates per year). While a 100% graduation rate for a doctoral program is not achievable, or even desirable, the faculty in Curriculum Leadership decided to be proactive in the area of doctoral attrition.

The following sections provide a glimpse into how faculty recreated one doctoral program with the above recommendations in mind. The first step is to look at the processes and procedures for admitting doctoral students into the program. Step two outlines the program curriculum procedures followed once admitted.

PROCESSES AND PROCEDURES

Student interests should also be paramount in designing a graduate curriculum that prepares students for a broad array of careers, and in building a diverse student body that enriches the educational environment and that prepares students to work effectively in a global environment. - Danforth, 1998

Experts in the area of graduate school admissions agree that the admissions decision is critical in maintaining and improving the quality of programs (e.g., NAGPS, Carnegie). Although the graduate school at NIU provides guidelines and minimum requirements for admission, it is not unusual for each program to include additional steps in admitting students. Over the past several years, we have determined that one of the major issues in doctoral completion is the ability to write and communicate clearly. In other words, we believe that doctoral students must have the ability to write and think “on their feet,” as well as communicate orally. For that reason, in addition to the statement submitted with the application materials, faculty in the Curriculum Leadership program require candidates to engage in an on-site writing sample and to engage in a formal interview prior to admission. The bulk of the interview is geared towards determining the seriousness and appropriateness of the applicant and to talk about their preliminary ideas for research. Another aspect of this process is to determine fit in two main areas: faculty advising and ultimately doctoral direction, and fit with the students already in the program. Community building is a topic that begins at the interview stage and permeates throughout the program.

Once admitted students are assigned a faculty advisor with whom they will construct a program of study. The Ed.D. in curriculum leadership is 63 hours beyond the master’s. Forty-eight semester hours of coursework and 15 semester hours dedicated to dissertation research (or the Big Paper, as it is commonly called in our program). Between coursework and dissertation research, students are required to pass a candidacy exam. Over the past few years, the focus of each of these, coursework, candidacy exam, and dissertation research has evolved.

In 2003, the Carnegie Foundation for the Advancement of Teaching convened to discuss the “doctorate.” One common theme that appeared was the need to have a central core for each program, i.e., what is shared by each participant in the program. This discussion is not uncommon in the NIU College of Education (CoE). Currently, the core for students in any of the CoE doctoral programs is 15 hours in the areas of research understandings and skills, learning and development theories, and sociocultural analyses of education. The decision as to which course(s) to take is individualized for each student. Although we strongly recommend a minimum of one quantitative and one qualitative course, the specific course recommended varies. Our students also enroll in a course specifically designed to teach literature-based research. Most recently, since the overwhelming majority of our students are practicing educators, we believe it is important to extend their learning in the area of learning and development to include the adult learner.

The common requirements are one piece of the curriculum. Students are also required to take 21 semester hours in the area of curriculum leadership. These courses are divided into two areas: theory and practice—although each connects the two with a different emphasis. For example, the focus of a course entitled, “Analysis of Professional Development Theory and Practice” is designing professional development programming, with theory as a support. And a course entitled, “Design of Curriculum and Instruction” begins with theory and connects it to educational practice. In this way, the importance of theory into practice into theory is reinforced. We have also started to make stronger connections between the knowledge and skills learned in each class with their application to the “big paper,” as well as to students’ professional life. The following table provides examples of the ways in which knowledge and skills required to complete the big paper are integrated and their connection to the profession are incorporated into a sample of courses. The first two courses emphasize practice guided by theory; the others are theory based with practical application.

Students can take up to 12 semester hours in a cognate. These courses are chosen collaboratively between the student and the advisor. Although some of our students take a series of courses in the same discipline, e.g., special education or instructional technology, others take a potpourri of courses to help them fill in knowledge gaps in a particular area, many of which are research related. A program alone, no matter how strongly connected to the needs of students, is incomplete without a supportive environment within which to study.

Table 1

Course	Knowledge/Skills	Application to the Big Paper	Application to the Profession
Professional Development	The relationship between professional development and school improvement. Adult learning theory. Cultural diversity. Professional development models. Construct comprehensive professional development related to school improvement plan. Identification and analysis of models for involving the professional staff in planning, organizing, and evaluating professional development activities.	Connecting practice and theory. Identifying problems. Constructing purpose. Recognizing that there are myriad of ways to address the same or different issues. Compare and contrast different models. Deconstruct and reconstruct models based on practice and theory.	Connecting the disparate pieces of professional development, e.g., adult learning theory, school improvement planning, teacher development levels, and staff development standards to construct meaningful professional development. Recognizing the “big picture” in education.
Curriculum Appraisal	Evaluation’s basic purpose, uses, and conceptual distinctions. Origins and current trends in curriculum appraisal. Curriculum appraisal theory/approaches. Designing a curriculum appraisal. Reporting and using appraisal data. Ethical considerations.	Connecting practice and theory. Identifying problems. Constructing purpose. Exploring a range of theoretical/conceptual frameworks. Review of quantitative and qualitative research methodologies (data collection and analysis)	Identifying the key pieces in appraising curriculum and how they fit together to create a strong evaluation plan. Recognizing how each fits into the “big picture” of education.
Design of Curriculum and Instruction	Impact of educational philosophy on curricular choices. Curriculum orientations. Influence of educational policies and standards on orientations. Curriculum orientation perspectives held by curriculum directors. Historical understanding about what knowledge is most worthwhile.	Connecting theory and practice. Exploring a range of theoretical/conceptual frameworks. Data collection through document review and interviewing. Synthesizing literature. Analyzing curriculum.	Designing curriculum. Recognizing that there are multiple philosophies operating in education. Comparing and contrasting philosophies of curriculum. Selecting faculty and staff with compatible philosophies. Illustrating strengths and weaknesses of curricula to board members and policymakers.
Curriculum Inquiry	Historical and contemporary curriculum discourses. Critical theory and its impact on curriculum design and delivery. Influence of educational policies and standards on curriculum discourses.	Connecting theory and practice. Exploring a range of theoretical/conceptual frameworks. Qualitative research. Synthesizing literature. Analyzing curriculum.	Recognizing the connection between practice and policy. Comparing and contrasting curriculum theories. Defending choices based on the research literature. Differentiating curriculum theories.

For a complete list of course descriptions, please go to: <http://www.cedu.niu.edu/tlrn/doctoral.html> and <http://www.cedu.niu.edu/tlrn/ciscindex1a.html>

PROGRAM ENVIRONMENT/MENTORING

To date, evidence for effective practices in doctoral programs points to the importance of the mentoring relationship to doctoral completion. Faculty mentors should confer with students frequently to assess students' progress, and should provide the department with periodic assessments on progress to the degree. The part-time student status and full-time employment of Curriculum Leadership students poses a challenge in assuring that students meet with advisors on a regular basis. Most often, consultation occurs as the advisor teaches a course in which her advisees are enrolled or when students contact advisors to confirm registration decisions for each term. Faculty are also in the habit of providing group advising time for all doctoral students in their classes each term. And, let us not forget the student “grapevine.” As building a community of learners is an important aspect of the program, it is common for students to consult each other about classes and instructors.

The AAU advises that institutions and departments should clearly affirm the importance of faculty mentoring through policy guidelines and incentives. At NIU, the College of Education and the Department of Teaching and Learning personnel policy provides that advisement is considered as part of each faculty member's professional assignment in the annual merit rating process. Although institutional expectations and policies to support mentoring are important, but the experience of Curriculum Leadership faculty indicates that the relationship-building that is central to effective mentoring not only must be extrinsically rewarded, but intrinsically valued.

Program faculty place a high value on relationship and community building throughout the program. This is emphasized more strongly in the final two courses of students' programs as we begin to "wean" them from the structure and security of regular class meetings and due dates for assignments. The second to the last class is designed to guide students to become savvy consumers of research in their proposed area. During this class students are guided to begin drafting Chapter 2—the literature review. By the time students are enrolled in the final course, designed to guide students through the process of constructing Chapters 1 and 3, we expect that they have become fully versed in the literature in their area, including knowing what research has already been conducted, how the research studies have been theoretically framed, what methodologies have been used, findings and implications, and suggestions for future research. Another aspect of these final two courses is practical, including discussions about support, time management, and organizational skills.

Students are also required to pass a candidacy exam prior to officially enrolling in dissertation research hours. The timing of the exam is negotiated between the student and the committee but generally takes place during or immediately following the final course. The candidacy exam is a collaborative process that has been restructured to allow students an opportunity to fill in holes identified in the first three chapters. Students meet with their committee to craft two to three questions; one question is literature-based, one is research-based, and the third question is theoretically-based. After the meeting, students know the questions and their timeline. Generally students meet with their committee four to six weeks prior to their official exam week. The week is chosen by the students. It is expected that during this time they will be collecting research, organizing their thoughts and work space, and drafting outlines.

A milestone in the life of a doctoral student has occurred. They have finished their coursework and passed their candidacy exam. This would seem like a call for celebration; however it is at this point where so many doctoral students lose their momentum and become forever ABD. In an attempt to keep the momentum going and to increase our completion rate, faculty in the Curriculum Leadership program created the Big Paper Network (BPN) in the fall of 2003.

THE BIG PAPER NETWORK

The Big Paper Network (BPN) started out as a response to a significant number of doctoral students disappearing once they had moved into candidacy. It was also a result of discussions amongst faculty as to strategies they had experienced that led to completion. The BPN is group therapy for doctoral students in the throes of dissertation research. Students are invited to join the BPN once they have begun their final course and are encouraged to attend whenever possible throughout the process. Faculty members host BPN gatherings in their homes twice a semester. The meeting dates are determined well in advance and distributed to students and faculty. Information for upcoming BPNs is also posted on the department website at: <http://www.cedu.niu.edu/tlrn/newsCurrLead.html> Each meeting has a theme based on identified areas of concern expressed by doctoral candidates or recognized by faculty. Recent themes included: taking baby steps to completing your big paper, advocating for yourself throughout the process; time management strategies; and creating and maintaining a support system. Although a big part of the meetings is networking, problem solving, and socializing, time is set aside for each meeting for a structured discussion or small group activities.

Attendance continues to grow—from students and faculty alike. We currently have approximately 40 doctoral students in the dissertation phase and seven faculty members serving as their chairs. On average, half of the doctoral students attend the sessions as well as four to seven faculty members. Discussions run the gamut from conceptual frameworks to methodology choices to overcoming writer's block. Students in attendance have

commented on how helpful it is to have these types of conversations with their peers and faculty. One of the successes of the BPN is that faculty members regularly attend and speak openly about their doctoral experiences, particularly as they relate to writing the dissertation. We continually stress the importance of talking with others who are going through this process because as much as your family, friends, and colleagues want to support you, writing a dissertation is one of the few things in life that cannot be explained—but only experienced. Preliminary feedback from the first year and a half has been extremely positive. Participants have commented that they:

- Look forward to the BPNs for support and for validation, i.e., there are others who are going through the same thing and understand them;
- Appreciate the honest and open feedback from their peers and from faculty;
- Feel a strong sense of community and they feel highly supported;
- Create deadlines for themselves so they can report progress at the next BPN; and
- Have found a writing/peer review buddy.

Word about the BPN has spread quickly through our doctoral student population. Students in the earlier stages of coursework view the BPN as a continuation of the support they receive throughout their program. The BPN has not been in implementation long enough to determine if it will increase our completion rate. However, we intend to monitor student participation in the BPN over the next several years and conduct interviews with students who have graduated to learn about the impact it may have had in their becoming a Doctor! In addition to continuing the BPN, we are starting to formulate a plan to start an After the Big Paper Network (ABPN) in an effort to help our students disseminate the results of their research.

NEXT STEPS

At NIU, each degree program is required to implement an assessment plan in which data regarding program outcomes is used for program improvement. The assessment plan incorporates many of the criteria advocated by the AAU. Within each of these criteria areas listed below, the description of “best practice” is followed by a description of the extent to which NIU (and the Curriculum Leadership program in particular) addresses the area.

- Institutions should maintain data on completion rates, time-to-degree, and placement to the first professional employment, as well as conduct exit surveys for all Ph.D. recipients. Institutions should provide such program performance data to student applicants.

At NIU, graduation and enrollment data are collected by the university and post-graduation surveys (including information about professional employment) are conducted by the university. Response rates to the post-graduation surveys (conducted at one year and five years out) are often less than desirable for generating data for program improvement. These data have not yet been made accessible to program applicants at NIU.

- Institutions should provide job placement assistance for students who request it.

At NIU, the Career Planning and Placement Office assists students in advancing their professional employment. For Curriculum Leadership students who are not as “connected” to campus services as full-time students, however, placement assistance more often occurs through informal networking among peers and program graduates. Much of this networking occurs through the BPN and the department website.

- Institutions should evaluate the quality of and justification for their doctoral programs through self-study, on-site evaluation by external reviewers, or both.

At NIU, the program review process, including external evaluation of a sampling of doctoral dissertations, occurs every seven to eight years. Faculty engage in an on-going informal and formal assessment of the program for strengths and areas of improvement based on the quality of the dissertations beginning at the proposal stage.

As assessment and accountability are the major “buzz” words in education today, P-20, it makes sense to continually assess the quality of our doctoral program—from start to finish—and to make changes as needed. It would be unrealistic to expect a 100% graduation rate. At the same time, a considerable amount of time, energy, and emotion has been spent by students and faculty. It makes sense to continually reevaluate the program and make changes as necessary. One way in which faculty from the Curriculum Leadership doctoral program have been addressing these is by redesigning coursework in a way that explicitly makes the connection between theory, practice, the big paper and the profession and by designing and implementing a support system for our ABD doctoral students through community building that is a natural progression from the support received in classes. For now, initial anecdotal comments indicate that the BPN is helping our ABDs maintain their momentum as they work to craft their proposals, collect and analyze data, and defend. The next step is to work with our graduates to disseminate the results of their research through presentations and publications. The ABPN is under construction!

DOCTORAL STUDENT RESOURCES

Websites

<http://www.abdsurvivalguide.com/>
<http://www.ecoach.com/about.htm>
<http://www.dissertationdoctor.com>
<http://wid.ucdavis.edu/grammar/links.html>
http://novella.mhhe.com/sites/0079876543/student_view0/post-graduation-999/your_dissertation26/
<http://www-smi.stanford.edu/people/pratt/smi/advice.html>
Consortium for Policy Research in Education
Council of Chief State School Officers
Education Commission of the States
Education Week
North Central Regional Educational Laboratory
North Western Regional Educational Laboratory
Pyrzczak Publishing
U. S. Department of Education

TEXTS

1. Creswell, J. W. (2003). *Research design: Qualitative, quantitative and mixed method approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.
2. Eisner, E. (2002). *The educational imagination: On the design and evaluation of school programs* (3rd ed.). Upper Saddle River, NJ: Pearson Education.
3. Lyne, L. S. (1999). A cross section of educational research. Los Angeles: Pyrczak Publishing.
4. Marshall, C., & Rossman, G. B. (1999). *Designing qualitative research*, (3rd ed.). Thousand Oaks, California: Sage Publications, Inc.
5. Meloy, J. M. (2002). *Writing the qualitative dissertation: Understanding by doing*. Mahway, NJ: Lawrence Erlbaum Associates Publisher.
6. Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
7. Patten, M. L. (2002). *Understanding research methods* (3rd ed.). Los Angeles: Pyrczak Publishing.
8. Pyrczak, F. (2003). *Evaluating research in academic journals* (2nd ed.). Los Angeles: Pyrczak Publishing.
9. Sagor, R. (2000). *Guiding school improvement with action research*. Alexandria, VA: Association for Supervision and Curriculum Development.
10. Yin, R. K. (2003). *Case study research: Design and method*, (3rd ed.). Thousand Oaks, CA: Sage Publications.

REFERENCES

1. Bair, C.R. & Haworth, J.G. (1999). *Doctoral student attrition and persistence: A meta-synthesis of research*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education (San Antonio, TX, November 18-21, 1999).
2. Brown, M. L., David, G., Fagen, A. P., Niebur, S. M., & Wells, K. S. (2000). The 2000 national doctoral program survey. Available at: <http://survey.nagps.org/>
3. Carnegie Foundation for the Advancement of Teaching (2003). Report of the Summer 2003 Convenings of the Carnegie Initiative on the Doctorate. Available at <http://www.carnegiefoundation.org/CID/resources.htm>.
4. Council of Graduate Schools Ph.D. Completion Project (2004). Available at <http://www.phdcompletion.org/resources/index.asp>.
5. Danforth, W. H. (1998). *Association of American universities committee on graduate education. Executive Summary*. Available at: <http://www.aau.edu/reports/GradEdRpt.html>

NOTES